

LAYER MATERIALS AND PLANAR OPTICAL DEVICES

ABSTRACT OF THE DISCLOSURE

Structures include a substrate with a release layer on the surface of the substrate and a uniform material over the release layer. The release layer generally includes powders or partly sintered powders. In some embodiments the uniform material is an optical material, which can be a glass. The optical material can be mechanically decoupled from the substrate such that the optical material is stress free. The release layer can function as a transfer layer for transferring the uniform material to another substrate or separating the uniform material to create a freestanding structure. The release layer can be formed by the deposition of a material with a higher sintering temperature than powders used to form the uniform material. In other embodiments, a heating step is performed to preserve the release layer while consolidating powders on top into the uniform material.